SWCC Fire Weather Program

Charting a course...

SWCC Fire Weather Program

Program Elements

- Predictive services
- Interagency RAWS program
- Monitoring and standards
- Education and technology transfer
- Research and development
- Some role in IMET program
- Liaison

Predictive Services

Primary Goal: Provide strategic planning information to enhance fireline safety and promote resource effective fire management.

Means

- Summaries and briefings based on NWS forecasts
- 10 day area-wide and dispatch zone assessments
- Monthly and seasonal area-wide assessments
- Assessment = Combined fire weather/danger product based on a thorough evaluation of all sources of meteorological, fire danger and resource capability information

Vision: Use assessments to quantitatively predict fire management resource impact

Predictive Services

Summaries of NWS Forecasts

- Graphical and text products integrating NWS forecasts into seamless area-wide outlook.
- Emphasis on day 1, with outlook for day 2 and mention of threats/critical fire weather patterns in extended.
- Briefings to GACC and dispatch zones based on above. (Internet briefing page)
- Need some method of coordination to effectively blend forecasts. (9 offices, 3 time zones, varying issuance times and formats)

SOUTHWEST AREA FIRE WEATHER AND BEHAVIOR ASSESSMENT
Issued 1900 MDT - June 21, 2001

FIRE WEATHER OVERVIEW FOR FRIDAY – JUNE 22, 2001

Upper level high pressure will continue to migrate towards the four corners…bringing above normal temperatures to far western portions of the region. Flow around this high will draw up moisture from Mexico into southern New Mexico and Arizona…while south to southeast flow over the eastern half of the region will pull moisture into the plains of New Mexico and Texas. In these areas (refer to weather outlook map), any storms that do develop will produce wetting rains. Otherwise…mid level moisture in place will continue the chance of thunderstorms (especially over the mountains) over the rest of New Mexico and north central and northeast portions of Arizona. The storms that develop in these areas will produce lightning and gusty winds, but little if any rainfall. The threat of thunderstorms will continue through the weekend. Southwest winds can be expected along the Colorado River valley and lower deserts of western Arizona. South to southeast winds can be expected over the eastern plains of New Mexico and west Texas, with light winds prevailing across the rest of the region.

Across far western Arizona, breezy southwest winds of 10 to 20 mph are expected. **In the eastern plains of New Mexico and west Texas,** expect breezy south to southeast of 10 to 20 mph. **Elsewhere across the region,** expect light and variable winds, or winds less than 12 mph. Isolated to scattered thunderstorms will be possible from west Texas, across all of New Mexico and the eastern half of Arizona. The chance of storms will extend east of a line from the Grand Canyon Village…to Prescott…to Globe…to Nogales. Temperatures and minimum relative humidity will be very similar to Thursday's readings. Minimum humidity will fall into the 10 to 20 % range across most of Arizona and New Mexico, with higher values in the 20 to 30 % range over the eastern plains of New Mexico, the higher elevations of far southeast Arizona and west Texas. A Haines Index of 5 (moderate) is forecast across the western third of New Mexico and far northern Arizona, with a Haines of 4 (low) over the rest of Arizona and central New Mexico. The Haines will be a 3 (very low) over the eastern plains of New Mexico and west Texas.

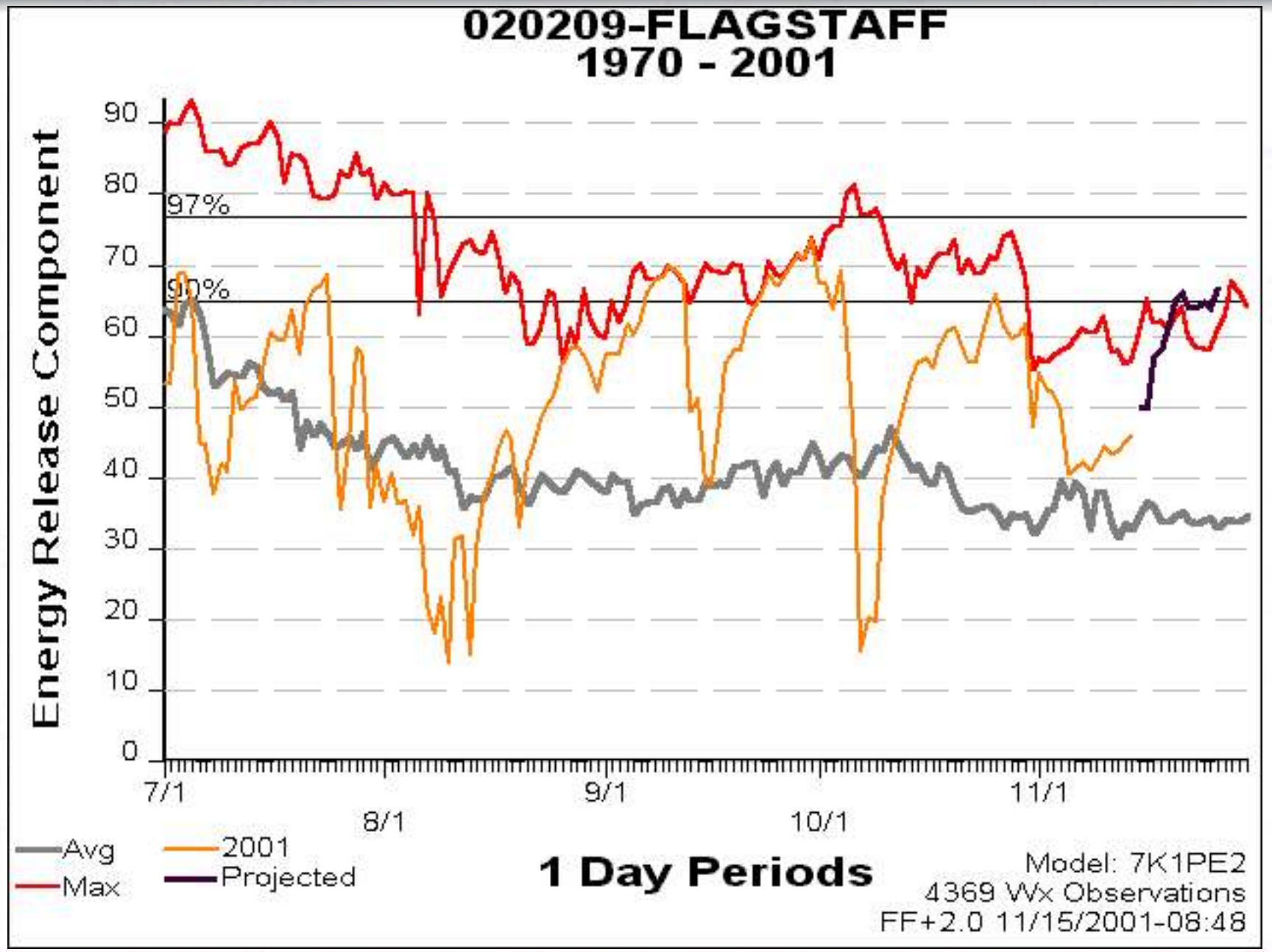
Remember, all thunderstorms have the potential to produce erratic and strong gusty winds (sometimes exceeding 50 miles an hour). Thunderstorm winds can easily override the prevailing flow, with outflow boundaries extending up to 10 miles away from the storm.

Gary Zell, IMET – SWCC

Predictive Services

10 Day Assessments

- 1 to 10 day fire weather/NFDRS indices forecasts based on RAWS
- Mets will provide weather inputs (Weather, temp, RH, wind)
- Intell will enter wx parameters into Fire Family Plus to get predicted fire danger indices.
- NIFC will be using GACC output to produce a national assessment.
- Could see NWS providing met input somewhere down the road.


020209-FLAGSTAFF
1970 - 2001
Energy Release Component
90
80
70
60
50
40
30
20
10
0
97%
90%
7/1
8/1
9/1
10/1
11/1
Avg
Max
2001
Projected
1 Day Periods
Model: 7K1PE2
4369 Wx Observations
FF+2.0 11/15/2001-08:48

Predictive Services

Monthly/Seasonal Assessments

- 30/90+ day assessments built initially around climatology
- Intent is to work in long term, quantitative fire danger and resource impact
- Resources will include CPC outlooks, but also input and expertise from CLIMAS, CEFA and various experimental models
- NIFC will incorporate GACC output into national outlooks
- Coordination will occur between GACC's

Interagency RAWS Program

- Working to assume management/coordination responsibility of entire RAWS network (Rich W.)
- Goal = more and better data through better station maintenance, siting and oversight
  - All stations maintained and NFDRS Next compliant by 2003
  - Assessment of entire network via statistics and site visits
  - Encourage and facilitate use of portables for Rx
- SWA RAWS web page to provide complete program information and data access
- Work with NWS to identify area where additional RAWS are needed

Monitoring and Standards

Mets charged with monitoring all fire weather sources and ensuring they meet fire mgt. needs

Not "weather cops", but continuous monitoring of products and services with issues summarized and brought up under appropriate circumstances

Intent of monitoring is to see how we're doing and set goals and standards for improvement

Red Flag verification from SWCC for all of SWA is only quantitative process planned

Education and Technology Transfer

Training assistance with usual courses in coordination with NWS

Enhanced training efforts to ensure fire mgmt. interests understand their role in getting good weather information

Participation in NWCG course development

Training to explain benefits and encourage use of technology (RAWS, portable RAWS, hand-held weather monitoring istruments, etc.)

Reintroduce effective use of NFDRS

Research and Development

- Ongoing with development of assessment products and management of RAWS program
- RAWS climatology (wx, fire danger and occurrence)
- Critical fire weather patterns and fine tuning of Red Flag criteria
- Involvement in mesoscale modeling consortiums
- Work with DRI/CLIMAS to identify better predictors of long term wx and fire danger

Role in IMET Program

*** DANGER DANGER DANGER ***

- Current draft national agreement has GACC mets as last resort IMETs when national NWS resources depleted
- **IF** this is changed to allow for GACC mets to have an expanded IMET role...
  - SW Fire Board supports “closest available resource” approach
  - Availability of SWCC mets questionable during fire season
- Foresee SWCC IMET being deployed to...
  - Support incidents if NWS resources in SWA depleted or unavailable
  - Maintain proficiency (1 incident per year) to be available as a resource for the next big year

Liaison and Partnership

Assist in maintaining effective lines of communication between NWS and all levels of fire management
Facilitate issue resolution at the lowest levels possible
Work with NWS to promote fire weather excellence
What can SWCC fire weather do to help NWS?
  - Provide software, data, data access, research resources, etc?

Summary

SWCC Fire Weather Program

- Provide strategic/planning assessments which play into the overall decision-making process
- Ensure RAWS network is producing consistent, quality data to suit all meteorological and fire danger needs
- Monitor and evaluate all weather information sources and set goals for improvement as necessary
- Educate fire management personnel to make best use of available and emerging weather and fire danger information
- R & D to explore new and better ways of forecasting weather and fire danger
- Maintain open communication and partnership with NWS with goal of providing best possible fire weather services